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AUTHOR Heinich, Robert
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ABSTRACT

As more and more of its graduates became employed in training and development in business and industry, rather than in instructional systems development in the public schools, the Instructional Systems Technology (IST) progam at Indiana University decided to conduct a needs assessment to determine how its programs could better prepare its graduates for their jobs. A survey of recent graduates, regarding their preparation, produced responses from 13 persons who were employed in training programs in business and industry. Analysis of these responses revealed that graduates would have liked more preparation in the following areas: writing print training materials, budget management/development, understanding organizational behavior, management of training teams, management of training programs, politics of the business world, video tape production, and effecting organizational change. In addition, a study was conducted by an IST doctoral candidate to determine what a panel of 62 people who possessed advanced degrees and were involved in business and industry training programs saw as needs of the degree programs. Areas considered important for study by the panelists were instructional development, product design and development, learning theory, basic communications, evaluation, business theory, and background skills and competencies. Based on these two studies, a master's degree in training and development was proposed for the Indiana University School of Education. (The degree requirements and proposed curriculum are included in this report.) (KC)

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Preparation Programs for Educators in Corporate Settings

Presented at AERA, March 19, 1982
Robert Heinich, Chairman
Instructional Systems Technology
Education 210
Indiana University
Bloomington, IN 47405

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Robert Heinich

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

This presentation is from the point of view of an academic program that prepares people to design and/or function in training programs in business and industry. We make no broader claim within the human resources development (HRD) arena. However, many of the lessons we learned are applicable to all areas of HRD.

Ever since our program started in 1941, some of our graduates sought and found positions in business and industry. However, starting about 15 years ago, the percentage of IST graduates entering non-formal education settings has increased each year until it is now approximately fifty percent. (The other half go into higher education.) We gradually realized that we were providing our students with sets of skills that were marketable in a wide variety of settings.

Perhaps, I should first give you a better understanding of our program. Although our department was created to provide media service courses to pre-service teachers--a very common origin of educational media programs--we gradually became a graduate department with virtually no vested interest in the undergraduate program. During the same time, we gradually separated ourselves from the training of media professionals for the public schools as a major area of professional concern. This put us in a strong position to move into the business and industry arena because: 1) our intellectual sights were not limited to nor constrained by a primary emphasis on a

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service course role; 2) our faculty by and large did not feel ill at ease in non-public school environments; and 3) our lack of an undergraduate requirement permitted us to recruit from a wide variety of undergraduate majors (and our program is large and flexible enough to permit English and Fine Arts graduates, for example, to build on their respective backgrounds). We are by far the largest program of instructional technology in the U.S. with more than twice the number of full-time equivalent graduate students of any other program. I will not claim we are the best, but practicing professionals who come from a media background rank us number one. We are a resident not a commuter program.

Through the Audio-Visual Center of Indiana University, we have had close association with the business community for some time. The AV Center hosts the semi-annual Effective Communications Institute of the National Audio Visual Association (with the American Society of Training and Development as a sometime co-sponsor). Most of the participants in the institutes are from business and industry. Through teaching in the institutes, and through other contacts--some the result of the institutes--, our faculty became well acquainted with the character of the business/industry milieu. Our close association with the Audio-Visual Center helps keep us task oriented--an attribute highly prized in the business community.

Two years ago, at the risk of ruining a good thing, we decided to examine our program to see if we should change our curriculum to better prepare our graduates for non-formal education settings. We reasoned that if we were doing fairly well by accident, we should do great by design.

To find out how well our current curriculum helped our alumni succeed in business, we surveyed relatively recent graduates of our program.

We asked them to rank a set of competencies according to need on the job and to rate how well our curriculum developed those competencies. The report of that survey follows.

Findings of the "Training Program Survey"
Conducted Via Alumni Newsletter, Fall 1980

This is a brief summary of the findings of a survey conducted among IST alumni in late October 1980. The instrument, "Training Program Survey," was enclosed with an alumni newsletter mailing. Recipients who worked in the business/industry realm were asked to respond; a total of 13 persons employed specifically in corporate training jobs responded (Heinich estimates that 80-100 might have been eligible). This rather low response rate must be kept in mind when interpreting the findings. We can assume that those who responded were those most interested in giving us feedback, whether out of a sense of loyalty or out of a need to "send them a message."

As regards demographic representativeness, it should be pointed out that 12 of the 13 respondents were Specialist (6) or Doctoral (6) graduates. So this group is somewhat above average in amount of academic preparation at I.U.

In the focal portion of the survey instrument, respondents were asked to rate a number of descriptors of skills or knowledge areas. First, they rated the item according to their academic preparation in that area: "rate how your coursework experiences contributed to your competence in the items listed below." They had a three-point scale of responses: "little contribution," "adequate contribution," or "solid contribution."

Second, they rated the same items according to their on-the-job need for that skill or knowledge: "rate the listed items in reference

to needed skills on the job." Again, a three-point scale was used: "little need," "moderate need," or "high need."

Findings

The findings of the focal part of the survey are summarized in Table 1 and Table 2. The rankings portrayed in these tables were obtained by a simple system of assigning weights to each response. Three points were assigned to the highest rating, two points to the middle rating, and one point to the lowest rating. A write-in rating of zero or non-response to an item were both counted as zero in adding up the total scores. That is, if a respondent ignored a particular item on the grounds that it was not relevant to his/her job, this was counted as a vote that it was "not needed." The same is true in terms of academic preparation responses; if an item was skipped (perhaps because the respondent never took any courses in that area) it was counted as a vote that I.U. had made "no contribution" to that skill area.

Table 1

Areas of High Need

(Majority rated as "high need")

	Need		Preparation	
	Total	Average	Total	Average
*Writing print training materials	(38)	2.92	(17)	1.31
**Dealing with production services	(34)	2.62	(18)	1.38
**Task analysis	(33)	2.54	(23)	1.77
**Learner analysis	(33)	2.54	(24)	1.85
**Evaluating the training program	(33)	2.54	(19)	1.46
*Budget management/development	(33)	2.54	(11)	0.85
*Understanding organizational behavior	(33)	2.54	(16)	1.23
*Management of training terms	(32)	2.46	(10)	0.77
*Management of training programs	(32)	2.46	(11)	0.85
*Politics of business world	(32)	2.46	(11)	0.85
***Develop/Select instructional strategies	(32)	2.46	(29)	2.23
**Developing performance standards	(32)	2.46	(22)	1.69
**Designing training systems	(31)	2.38	(21)	1.62
**Test design/measurement	(31)	2.38	(19)	1.46
**Training needs assessment	(31)	2.38	(22)	1.69
*Video tape production	(29)	2.23	(14)	1.08
*Bring about organizational change	(29)	2.23	(17)	1.31
**Formative/summary evaluation	(29)	2.23	(21)	1.62
***Specify product requirements	(28)	2.15	(28)	2.15
**Production supervise/management	(28)	2.15	(22)	1.69
***Design/produce print and visual combo	(27)	2.08	(27)	2.08

*Coursework made little (or no) contribution to competence

**Coursework made adequate contribution to competence

***Coursework made solid contribution to competence

Table 2

Areas of Moderate Need

	Need		Preparation	
	Total	Average	Total	Average
**Interpret statistical data	(22)	1.69	(20)	1.59
**Advanced production-projected materials	(22)	1.69	(24)	1.85
*Utilizing computers in training	(20)	1.54	(6)	0.46
*Design/utilize simulations	(20)	1.54	(9)	0.69
***Basic production-projected materials	(20)	1.54	(-3)	2.54
***Advanced production-non-projected	(20)	1.54	(30)	2.31
**Evaluation/selection off-shelf materials	(19)	1.46	(23)	1.77
*Developing computer programs	(18)	1.38	(7)	0.054
***Basic production-non-projected	(17)	1.31	(32)	2.46
*Film Production	(16)	1.23	(13)	1.00

*Coursework made little (or no) contribution to competence

**Coursework made adequate contribution to competence

***Coursework made solid contribution to competence

Discussion of Table 1 and Table 2

First, of the 31 skill areas, 21 could be classified as obtaining a rating of "high need." On all of the items in Table 1 the average rating was at least "moderate," and in most cases a majority of all respondents indeed gave a rating of "high."

The remaining ten skill areas, those shown in Table 2, are quite distinctly a notch lower in their ratings. The averages all fall between "Little need" and "moderate need." The top half of the table leans towards "moderate," the bottom half toward "little."

Second, in general the needs outweigh the preparation. On 24 of the 31 items the needs were rated higher than the preparation; on two items they were tied; on only five items did the preparation exceed the need. Note that the skill area in which preparation most tends to exceed need is the AV production area (excluding video production), and these skills tended to be the ones rated lowest in regard to on-the-job need.

The discrepancy between perceived need and perceived preparation is highlighted graphically by the asterisks preceding the items in Table 1 and Table 2. The asterisks were assigned according to the following rather arbitrary scale: * = less than 18 points, ** = 18-26 points, *** = 27-38 points. Therefore all of the items in Table 1 were "three-star" items in terms of expressed need, but only a handful achieved an equivalent rating in terms of preparation. Eight items in Table 1 stand out with especially large discrepancies between need and preparation:

Writing print training materials

Budget management/development

Understanding organizational behavior

Management of training teams

Management of training programs

Politics of the business world

Video tape production

Bringing about organizational change.

Several items in Table 2 also have wide gaps between need and preparation even though they were rated, on the average, as lower priority needs. These were the items related to designing/utilizing computer programs and simulations for training. The level of preparation averaged below

1.0 (less than "little"). Indeed, a number of respondents went out of their way to write in emphatic zeroes in these categories.

Implications

The findings suggest that IST graduates face their jobs in business/industry settings with some trepidation. They feel gaps in areas that could be classed as "new technology"--CAI, video, simulation. These gaps have emerged in other recent studies of the IST curriculum as well.

They also feel gaps in knowledge or skills specific to the business milieu (e.g., "organizational behavior"). These gaps might best be filled by study in Business (or in some cases Adult Education) and/or by internship in an actual corporate setting.

Other gaps could be viewed as legitimate concerns of IST-gaps which could be filled by adding elements to the curriculum of redirecting existing elements (e.g., "Writing print training materials," "Budget management," "Management of training programs"). Filling these gaps credibly might require bringing in some outside expertise, people with first-hand experience in business/industry training. Other universities, such as Rochester Institute of Technology and George Washington University make extensive use of "adjunct" faculty to provide relevant education in such areas.

Post-Script

The Implications suggested above tend to be supported by the open-ended responses added by the survey respondents. Their recommendations for improvement covered a very wide range, but suggestions such as increased

contact with the business world--in the form of internships particularly--were mentioned frequently. Those working in larger organizations or "high technology" businesses were especially keen on pushing "new technology" skills.

END OF REPORT

We followed this survey with a dissertation on the topic by one of our doctoral students, Mary Kennedy. She submitted a modified Delphi instrument to a panel of sixty-two respondents nominated on the following basis. Each participant must have:

1. received a graduate degree from an educational technology program.
2. worked or is working in the training area in business and industry.
3. been associated with (as a student or otherwise) an academic program in the past ten years.

The instrument was based on analyzing previous studies such as Pinto and Walker (1978), Patterson (1980) and Hill (1978), and by contributions of a panel of five experts. In addition to asking the sixty-two panelists to rank competencies, she also asked them to assign units of curricular time to each area. Her summary of the results speak for themselves.

Conclusions and Recommendations of Kennedy (1982) Study

Instructional Development. Instructional development was identified as the most important component of the proposed curriculum. It was assigned approximately one quarter of the total curriculum time. More

than half the time allotted to the instructional development component was assigned to analysis techniques and strategies.

This emphasis on instructional development is not surprising in light of the specialization areas of respondents. Thirty-four panelists noted that instructional development was one of their areas of specialization or expertise. While initially this might be considered as an indication of bias in the Delphi panel, it is more likely that upper-eschelon employees with graduate degrees in educational technology would function at the design and development level. Hence the specialization areas of Delphi panelists might well reflect the actual distribution of educational technologists in the training milieu.

Product design and development. Product design and development was ranked second of the seven major curriculum categories. No large block of curricular time was recommended for any specific content area. Production knowledge and skills and instructional media theory were ranked slightly higher than planning techniques, computer knowledge and skills, and production management skills. Comments provided by some panelists indicated that knowledge of production techniques and processes, though not used by upper-eschelon training personnel to make instructional media products, was necessary to understand and make wise decisions about the design and development of training materials.

Learning theory. This category was assigned 14 percentage points, as was the major curriculum category basic communications. Within the category of learning theory the specific content area of instructional approaches and strategies was deemed particularly important. Comments by some panelists indicated that knowledge and skills encompassed in this

specific content area are frequently lacking in those newly employed in the business and industry milieu.

Basic communications. In the assignment of curriculum time units to the major curriculum category basic communications, the specific content areas written communications and interpersonal communications received the highest percentage points. Consistently over three rounds the needs for greater knowledge and skills in both these areas was emphasized. Both content areas would have been assigned even higher percentages had not some panelists considered them to be prerequisite to graduate study, and therefore assigned comparatively low percentages.

Evaluation. Evaluation was assigned just one percentage point less than the two preceding curriculum categories. This major curriculum category was noted by many panelists as a neglected aspect of training programs, but they indicated that increased emphasis is now being placed on evaluating programs because of greater concern with establishing the cost-effectiveness of the training effort. With the massive expenditures for training, business and industry are now demanding evidence of success.

Business theory. Over one-third of the time allotted to this major curriculum category was assigned to the specific content area training and development functions. Organizational development, often the key content area for graduate students in educational technology seeking one or two business courses, was assigned only half the percentage points of training and development functions. While organizational development content is deemed important, it should not be the only business content emphasized in graduate programs.

Background skills and competencies. This category was confirmed as an important component of the proposed curriculum. It was originally formulated from additional content recommendations on round 1. Of particular importance were the specific content areas of interaction strategies and organizational skills. Sixty percent of the curricular time devoted to background skills and competencies was recommended for these two specific content areas.

Discussion of General Results

Percentages to credits. It was not the task of the Delphi panelists to reach decisions on the specific number of credit hours comprising the curriculum of the proposed program. Traditional curriculum units such as courses and credit hours were avoided in favor of percentages of curricular time, in the belief that panelists would recommend content on the basis of intrinsic worth rather than in accordance with existing content structure. But it is valuable to translate the percentage points designated by panelists into more meaningful curriculum units.

In examining the suggested curriculum categories and content areas it seems apparent that the proposed program would demand more than the thirty-six credit hours usually required for a master's degree. Considering the recommended content, the program should fall between current master's and specialist degrees in credit hours. Panelists assigned 100 percentage points among major curriculum categories. If two percentage points were equated with one credit hour, the degree or advanced certificate program would consist of fifty credit hours; this is deemed adequate to permit the inclusion of all recommended content. The proposed credit hours for major curriculum categories are presented in Table 1.

Table 1

Credit Hours Derived from Percentage Points Assigned by Delphi Panelists

Major Curriculum Category	Percentages	Credit Hours
Instructional Development	24%	12
Product Design and Development	18%	9
Learning Theory	14%	7
Basic Communications	14%	7
Evaluation	13%	6.5
Business Theory	10%	5
Background Skills and Competencies	7%	3.5

Theoretical versus applied content. A trend concerning the role of theory versus practical content became apparent in analyzing responses. Generally those content areas describing theoretical content were assigned less curricular time than those describing applied content. This trend is demonstrated by the summarized data in Table 2.

Table 2

Comparison of Percentage Points Assigned to Theoretical and Applied Content Areas

Major Curriculum Category	Percentages: Theory	Percentages: Applied
Instructional Development	22%	34%
Product Design and Development	22%	23%
Learning Theory	30%	33%
Basic Communications	14%	31%
Evaluation	20%	31%
Business Theory	18%	36%
Background Skills and Competencies	*	*

*This major curriculum category does not have clearly delineated theoretical and applied components.

Prerequisite status. Some specific content areas were assigned a lesser percentage of curricular time by certain panelists because they felt that these content areas should not be a part of graduate programs. Rather, they were deemed to be prerequisites to graduate study. From comments included on all rounds, and from specific content recommendations on round 1, it seems that many of the skills encompassed in the specific content areas interpersonal communications, written communications, production planning techniques, and production knowledge and skills were judged to be prerequisite skills.

Discussion of Discrepancies

In comparing the proposed curriculum with current program offerings certain discrepancies were noted as follows:

Research and statistics. Content analysis of program materials from twenty-one institutions offering advanced degrees in educational technology revealed that current programs emphasize research and statistics content. Many specialist level programs and all doctoral programs included these content areas as required components of the curriculum.

Findings of this study indicate that research and statistics are not required or even desirable knowledge areas in the training milie The preliminary group of five experts who ratified curriculum areas for the initial questionnaire recommended that the category research and statistics be excluded, and Delphi panelists did not recommend these content areas be included in the proposed curriculum.

Educational foundations. Educational foundations, which included philosophy, history, and sociology of education, were offered in many of the current programs. This content was frequently required, and minors were available in some programs. Educational foundations were not recommended as a curricular component by the Delphi panel on any round. This content area, assigned curricular time in current programs, was excluded from the proposed curriculum.

Measurement/testing. Current programs also allotted more curricular time to the category measurement/testing than was warranted by the findings of this study. While some measurement/testing content was deemed of value by Delphi panelists, it was recommended as a small fraction of the specific content included in the major curriculum category evaluation.

Organizational development. Organizational development was included in many current programs, and received more emphasis than the findings of this study indicate. This finding appears surprising in light of a general lack of business content in current programs. However, it seems that organizational development is for the most part the only business component available to students who are interested in some business courses. The findings of the Delphi study do not indicate less business content by assigning less curricular time to organizational development content; rather, more diverse subject matter within the major curriculum category business theory is suggested.

Current program deficiencies. Current programs attributed less importance to a number of content areas than was recommended by Delphi panelists. Discrepancies noted include slightly less instructional development in current programs, particularly content dealing with analysis techniques. Product design and development, judged to be approximately one-fifth of the content in the proposed curriculum, was neglected by many of the current programs. Evaluation and management/ administration were not emphasized in current programs. Of particular note was the discrepancy between current programs and the proposed curriculum as evidence in the major curriculum category basic communications. This whole area is virtually ignored in current program offerings, yet it is ranked third with learning theory by Delphi panelists, and fourteen percent of the proposed curriculum is assigned to it. It is also noteworthy that skills included in the major curriculum category basic communications were mentioned by many panelists as those deemed lacking in new employees in the training milieu.

Comparative ranking of content areas. Because curriculum components were categorized by different content units in the Delphi study and in the content analyses of current programs and studies of training roles and competencies, difficulty arises in comparing results across all three data sources. However, using the major curriculum categories established in this Delphi study it is possible to select the same content blocks from the other two sources, despite differences in terminology and content structure.

Because the range of the three data sources varied widely, the ranks assigned were converted to quartiles for the purposes of clarity. The results of the comparison are presented in Table 3.

Table 3

Comparison of Ranking of Content in Studies of Training Roles and Competencies, Current Programs in Educational Technology, and Delphi Results

Major Curriculum Category	Quartile Rankings		
	Studies of Roles and Competencies	Current Program Offerings	Delphi Results
Instructional Development	1	1	1
Product Design and Development	3	2	2
Learning Theory	2	1	2
Basic Communications	2	4	2
Evaluation	1	2	3
Business Theory	3*	1*	4
Background Skills and Competencies	—**	—**	4

*Average rankings obtained from organizational development and human resources development rankings.

**Content included in the category background skills and competencies was not included in either studies of roles and competencies or current program offerings to a measurement extent.

Other content areas ranked in studies of training roles and competencies and current programs were included as specific content areas in the Delphi study, but these areas were assigned only a small fraction of total curricular time.

In examining the data presented in Table 3, it is apparent that current programs, while generally offering content recommended by those knowledgeable of training in the business and industry milieu, should consider adjusting programs by re-assigning credit hours and re-examining the status of content areas.

Recommendations

Considering the findings of this study, the following recommendations are suggested:

1. Colleges and universities currently offering graduate degrees in educational technology should consider the expanding employment market in training in the business and industry milieu when redesigning curricula to meet graduates' needs.
2. Colleges and universities currently offering graduate degrees in educational technology should consider the findings of this study with a view toward updating curricula to meet the needs of the business and industry milieu and other non-formal education settings.
3. One issue surfaced frequently throughout this study. Considerable dissent was apparent concerning the definition of certain content as prerequisite to graduate study in educational technology. It is recommended that further research be done

to establish prerequisite skills, knowledge, and competencies for entry into graduate educational technology programs. Delineation of prerequisites will do much to prevent loss of credibility on the part of current programs through the entry of graduates lacking basic skills into the employment market.

4. Through the data presented in Table 2 it is apparent that practical or applied content was deemed more appropriate to the needs of business and industry than theoretical content. Therefore it is suggested that current programs consider internship experiences as a means of providing practical experience in the application of theory presented in graduate courses.
5. Based on the spirit of cooperation between business and industry and academia as evidenced in this study, it is recommended that departments of educational technology establish communications channels with schools of business in order that current programs be strengthened through cooperative efforts.
6. It is recommended that professional associations sponsor seminars and conferences that would encourage the interchange of information among all those involved in educational efforts within the domain of training.

END OF KENNEDY RECOMMENDATIONS

By and large, the results of our modest survey of our alumni agree with Kennedy. Our attitude toward the suggested prerequisites of Kennedy is to treat them as required entry behaviors and offer remediation if they are not met. Most striking to us of the feedback we received is the stress placed on the need for writing ability. I also need to add that more recent information suggests more of a need for computer skills than either study indicated.

We in IST took both of these studies to heart by proposing a new master's degree to the School of Education at Indiana University. The structure of the degree follows the recommendations fairly closely. I will close by presenting our proposed MA (or MS depending on internal factors). Please excuse the laundry lists of courses after each competence area; substitute your own.

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Proposal

February, 1982

Indiana University School of
Education, IUB-IUPUI

Department of Instructional Systems Technology

MA Degree in Training & Development: Regulations and Requirements

IST Committee on Master of Arts

Ivor K. Davies
Deane Dayton
John Moldstad
Michael Molenda
Walt Niekamp
Dennis Pett
Robert Heinich, Chair

Proposal prepared by Ivor K. Davies

The Department of Instructional Systems Technology (IST) has long had an approved MA Degree, which has been relatively inactive for a period of years. It is the intention of the Department to revitalize the degree, and to dedicate it to the training and development area. In this way, the skills of the faculty and the courses presently available in the Department and the School of Education can be used to meet a rapidly emerging need in the area of training and human resources development.

RATIONALE

The field of training is growing steadily both in the USA, as well as overseas. Indeed, it has been identified as one of the most rapidly expanding fields in the country today. Although estimates vary enormously amongst recent surveys, a significant expansion of up to a 60% increase over the next few years is forseen. As of the moment, although there is a great deal of interest, few major universities have on-going graduate programs specifically in the area. Most trainers and human resource developers find themselves having to develop their own skills through work experiences and packaged training programs.

Training specialists often view themselves as systematic problem-solvers, knowledgeable in the area of human performance and productivity. Five particular roles can be identified amongst the many responsibilities that are exercised in business, industry, government, professions and military. The five roles are:

- The analysis of performance problems, and the identification of appropriate training and human development solutions.
- The selection, design and development of instructional programs, and on-the-job training.
- The selection, design, development and production of instructional materials, situations and environments for learning.
- The assessment of individual progress, the identification of learning problems, and the evaluation of training and development programs.
- The administration of training and development systems, as well as project management.

Trainers and human resource developers, today, are increasingly regarded as "managers of learning". As such, they need to possess a knowledge of adult learning and development, instructional systems, and interpersonal skills and communications of a high order. The focus of most Master's degrees in Education, geared toward the public schools, is largely inappropriate to training and development specialists, although there are many skills in common. The current IST MS degree with its orientation towards academic institutions will not be affected by the proposal. It will continue in its present form with its emphasis in media.

It is difficult to pinpoint a title for the degree that will serve all purposes. The title "MA Degree in Training and Development" was identified for three particular reasons. It is part of the name of the American Society for Training and Development (ASTD), which is the premier professional organization in North America with 20,000 members. Secondly, Training and Development is the title of ASTD's official journal. Finally, a recent analysis of the descriptor language in classified advertisements for training and human resource development specialists revealed repeated use of the phrase "training and development" in the listings. For this reason, the decision was made to call the degree an MA in Training and Development.

COMPETENCIES IMPORTANT IN THE TRAINING AND DEVELOPMENT AREA

The form and content of the MA degree in training and development has been designed on the basis of two studies, as well as with the assistance of faculty members knowledgeable and experienced with the field. One survey, carried out in 1981 by Mary Kennedy, an IST student for a doctoral degree, sought to identify "guidelines for graduate educational technology programs with an emphasis in training in the business and industry milieu". Another study, carried out in 1981 by Donna Toler, a member of the faculty of the University of Central Florida, brought together people from industry, business, government, military and professions. As a result of their discussions, a list of competencies was identified for trainers, with a view to offering a master's degree program in Instructional Technology through the UCF College of Education.

The two studies draw very similar conclusions. Competencies identified include the ability to conduct analyses; design instructional systems and programs; develop and produce systems and programs; implement systems and programs; conduct evaluation; organize and manage instructional systems and projects; communicate; develop professional skills. This listing is also in close agreement with a survey of competencies conducted in 1978 by the American Society of Training and Development.

The ASTD survey included the following competencies: conduct needs analysis and diagnosis; determine appropriate training approaches; design and develop programs; develop material resources; manage external resources; manage internal resources; plan individual development and counsel; conduct job/performance-related training; conduct classroom training; work on group and organizational development; research the training field; manage working relationships with managers and clients; manage the training and development function; keep up with professional self-development. These thirteen ASTD competencies to a large extent flesh out the listing developed from the two studies described above.

PROGRAM OBJECTIVES

On the basis of the competencies important to people in the training and development area, the objectives of the MA degree program are to:

- Prepare people to undertake responsibilities for training and development, whether in business, industry, government, military or professions.

- Enable people to prepare for these responsibilities by selecting course work and experiences, within a degree framework which has wholeness and integrity, according to their individual interests and abilities.

- Assist people to acquire the knowledge, skills and values essential to training and development as an important emerging area of human concern.

- Encourage people to acquire an interest in research and development appropriate to training and human resources development.

Important to the program is a focus on methodology, good interpersonal and communication skills, and sound bases of learning theory and adult psychology.

REQUIREMENTS FOR THE DEGREE

Admission

A student must possess a baccalaureate degree from a nationally or regionally accredited institution. The degree must represent not less than four years or the equivalent of undergraduate work. Admission to the program is dependent upon: 1) a cumulative undergraduate average of B; 2) an appropriate level of achievement on the Graduate Record Examination; 3) three letters of recommendation; and 4) one course each in statistics and learning theory. In exceptional cases, these requirements may be reduced by the chairperson with the consent of the Dean of the Graduate School. Deficiencies may be removed while in graduate residence.

Grades

An average of at least a 3.3 must be maintained in all course work. No grades below B- (2.7) may be counted towards degree completion. Students receiving more than one grade below a B- (2.7) in a core course will be terminated. Students who receive more than one grade below B- (2.7) for non-core courses must take remedial work.

Research and development

All students are expected to develop research and development skills appropriate to their interests and abilities through some combination of course work, individual study, and experience. Evidence of these skills will be obtained from course and/or individual projects, as well as from the thesis.

Course requirements

A total of at least 44 hours must be taken for the degree, at least twenty hours of which need to be in IST. No more than one hour may be included in the minimum of 44 hours for the thesis, although thesis credit may be extended up to five hours for a total of 48 hours for the MA. In addition, all course requirements should be completed within five years of beginning the program.

Thesis

The thesis will take the form of a creative act of inquiry, a research and development project, or other scholarly work.

Degree requirements

The requirements for the MA degree in Training and Development include coursework and experiences which meet both common core and area requirements.

The core curriculum forms the starting point for a distinctive program in training and development. It seeks to provide all students entering the program with a set of common knowledge, skills and values basic to an appreciation of the program as a whole. Included in the core is sixteen hours of coursework, participation in a monthly non-credit colloquium, and a thesis. The coursework overviews the field of training and development, considers basic paradigms and techniques for the design and production of instructional materials (including media), and explores the problems of their application to training in industry, business, government, professions and military. Students will be required to demonstrate their competency in basic descriptive statistics, before they are allowed to meet area requirements.

The area requirements offer students opportunities to gain both breadth and depth of knowledge, skill and experience. Whereas the core curriculum prescribes what courses students must take, and when they should be taken, the distribution requirements allow students to choose over a rich and varied "menu". In this way, students are able to build programs, within the constraints imposed by the core curriculum, that are relevant and worthwhile to their individual needs and abilities.

Included in the area requirements are choices spread over three areas of specialization. Within each area, a minimum number of hours must be met: no maximum is indicated. The three areas are: an instructional technology specialization; a human performance specialization; and an organizational specialization. In each of the three specialization areas, methodology is emphasized, as is problem recognition and resolution.

By using both a common core focus with area requirements, an attempt has been made to ensure that the degree program has integrity, and that fragmentation is avoided. Specialization is allowed, but within an overall framework that provides for the development of common knowledge, skills and values. Approved coursework leading to such specializations, of course, may be taken in departments within and outside the School of Education.

Common core, area and thesis requirements

The degree consists of a minimum of 44 hours which will be distributed over common core, area and thesis requirements in the following manner:

I. Core requirements: Instructional Systems — Minimum of 16 hours

a. An overview of the field, theory and profession — 1 hour
This competency may be met by R530

b. Basics of instructional development — 3 hours
This may be met by R566

c. Design of instructional systems — 3 hours ea.
This may be met by R5XX/R680 (Adv Thg)

d. Production of instructional materials — 3 hours
This may be met by R543

e. Instructional media and technology:application — 3 hours
This may be met by R523

f. Technical writing, scripting and preparation of proposals — 3 hours ea.
This may be met by R537, R655 or outside the School by Caroline Mullins'course

g. Occasional topical seminar on training and development — 0 hours
To be arranged

II. Area Requirement: Instructional technology specialization — Minimum of 6 hours

a. Principles of graphic communication — 3 hours ea.
This competency may be met by R573, R671, and outside the School of Education by J465

b. Principles of photographic and filmic communication — 3 hours ea.
This may be met by R544, R572, R574, R671, and outside the School by J520, S495

c. Principles of video communication — 3 hours ea.
This may be met by R505 and outside the School by R549, R550, R580 in the Department of Telecommunications

d. Principles of computer based education — 3 hours ea.
This may be met by R531, R536, R562

e. Principles of message design and communication — 3 hours ea.
This may be met by R634, R695, and outside the School by S440

III. Area Requirement: Performance specialization Minimum of 6 hours

a. Adult psychology
This competency may be met by PXXX, D525, and outside the School by the IUPUI PSY 570 — 3 hours

b. Analysis of human performance
This may be met by R620, and by IUPUI PSY 577/578 — 3 hours

c. Principles of human resources development
This may be met by D625, P517, P575 — 3 hours

d. Instructional strategies
This may be met by D521, D523, D524, J511, P600, P535, P680 (simulation and games) — 3 hours ea.

e. Assessment and evaluation
This requirement may be met by P527, P617, Y535, Y635, Y735, outside the School by V535, Z515, and by IUPUI PSY 574 — 3 hours ea.

IV. Area Requirement: Organizational specialization Minimum of 6 hours

a. Administration of training and development systems
This competency may be met by R665, R666, R672, and outside the School by C502, C504, C506, D524, P502, P510 — 3 hours ea.

b. Group dynamics and interpersonal skills
This may be met by D521, D523, outside the School by Z504, Z505, Z506 and by the IUPUI PSY 572 — 3 hours ea.

c. Industrial relations
This may be met outside the School by Z514 and approved courses in Labor Studies — 3 hours ea.

d. Organizational development and planned change
This may be met by R550, R650, R660, R695 (R670), G785, J620, outside the School by S440, W516, W530, Z504, Z505, Z506, and by IUPUI PSY 572

V. Thesis — 1-5 hours

a. Master thesis
This will be met by R599

A student counselling sheet is attached to this proposal.

Course revisions and development

The degree, ideally, requires the development of two new courses: one in IST on "Designing Instructional Systems" and one in Educational Psychology on "Adult Psychology and Development." All other courses are currently available, either in the School of Education or in the Business School, Journalism, SPEA, Fine Arts, Speech, Telecommunications, and Continuing Studies. Even in the case of the two new courses, it is envisaged that development will replace courses currently in the Bulletin but not taught for a period of years. Thus, implementing this proposal does not involve any large scale new course development.

Some revision of current course offerings may be necessary to better meet the needs of people in training and development. These revisions, in essence, would involve broadening the scope of some courses, as well as changes in course assignments and projects. In the case of IST, many of these revisions are on-going ones, and involve updating course materials consequent upon new knowledge and practices. The MA degree should give these revisions added momentum and direction.

Conclusion

A need has been established for a distinctive graduate degree in Training and Development. The field is well defined, and the competencies identified. Such a degree would meet the needs of people wishing to develop their skills as training and human resource development specialists. It would also contribute to the economic development of the State of Indiana, as well as the nation as a whole.

It is recommended, therefore, that the current largely inactive IST MA degree be re-vitalized in the manner described in this proposal.

It is further recommended that the degree program become operative by Fall Semester, 1982 with a small initial entry of students.

The Department of Instructional Systems Technology has an international reputation in the field of instructional design and development. In the U.S. it is rated as number one for quality. Faculty are currently available with the required knowledge, skills and experiences for the program to begin at once. Courses essential to the degree are already in situ, and little revision or re-development work is necessary. No additional faculty members for IST are needed. If growth of the program demands additional faculty because of student enrollments, it is possible that qualified personnel may be re-assigned to the program from elsewhere in the School of Education or University.

PROGRAM OUTLINE FOR MA IN TRAINING AND DEVELOPMENT

School of Education

Name _____ Date _____

Academic Record:

School _____ Degree & Year _____ Major _____ Minor _____

School _____ Degree & Year _____ Major _____ Minor _____

	Hours Required	Hours Assigned
Common Core: Instructional Systems	16	____
Area Requirement: Instructional Technology Specialization	6 minimum	____
Area Requirement: Performance Specialization	6 minimum	____
Area Requirement: Organizational Specialization	6 minimum	____
Thesis	1 minimum	____
Electives	0	____
Total Minimum Hours Required --44 hours		

_____ Adviser

_____ T&D Co-ordinator

_____ IST Departmental Chairperson

_____ Director of Graduate Studies

RESIDENCE

(a) Requirement - Two consecutive full-time semesters (minimum of nine hours, exclusive of summer sessions) must be spent on the Bloomington or Indianapolis campus. A total of 30 semester hours must be taken in residence at Bloomington or Indianapolis.

(b) Method of meeting residence requirement:

Year	Semester	Hours

SPECIAL REQUIREMENTS IN STATISTICS AND LEARNING THEORY MET BY COURSES/ EQUIVALENCY: 0 Hours

Courses/ Equivalency	Title	School	Semester and Year	Hours	Grade

COMMON CORE:INSTRUCTIONAL SYSTEMS 16 Hours

Courses to be sequenced so as to involve the student in successively more complex and integrated core experiences.

Courses	Title	School	Semester and Year	Hours	Grade

AREA SPECIALIZATIONS

The following criteria serve as guidelines:

1. Do the courses hold together?
2. Do the courses fit the area specialization?
3. Do the courses fit the program in training and development?

INSTRUCTIONAL TECHNOLOGY SPECIALIZATION — Minimum 6 Hours

Courses	Title	School	Semester and Year	Hours	Grade

PERFORMANCE SPECIALIZATION — Minimum 6 Hours

Courses	Title	School	Semester and Year	Hours	Grade

ORGANIZATIONAL SPECIALIZATION — Minimum 6 Hours

Courses	Title	School	Semester and Year	Hours	Grade

THESIS — 1-5 Hours

Courses	Title	School	Semester and Year	Hours	Grade
R599	Thesis Credit				
R599	Thesis Credit				
R599	Thesis Credit				

ELECTIVE COURSES — Minimum 0 Hours

Courses	Title	School	Semester and Year	Hours	Grade